

REMARKS

Claims 1-20 remain pending after entry of this amendment. Claims 1, 11, 16-18, and 20 were amended herein. Favorable reconsideration is respectfully requested in light of the amendments and remarks submitted herein.

The Examiner objected to the specification because the term "Eh" was not identified by name at least the first time it was employed. The amendment to the specification has inserted a commonly used definition of Eh into the specification. Applicant respectfully asserts that no new matter has been added via this amendment because one of skill in the art would have known, having read the specification that Eh had this meaning. The Examiner also objected saying that the specification does not correspond well to Figure 4. The specification has been amended to remedy this apparent discrepancy. Applicant respectfully requests that the Examiner withdraw this objection.

Rejection under 35 U.S.C. § 112

Claims 1-20 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Specifically, the Examiner asserts that the scope of the phrase "without the need for a collector" is unclear. The Examiner gives four different possibilities of how this term could be used. Applicant respectfully believes that it is clear, and requests that the Examiner reconsider in light of the following comments.

The phrase "without the need for a collector" cannot be taken in isolation. As recited in claim 1, the first step in the process is to determine an Eh range within which the mineral may be recovered by flotation without the need of a collector. In this context, the phrase "without the need for a collector" simply explains the calculation that must be done. The Examiner then is correct that the first step of the process may be conducted i) without a collector; ii) with no xanthate collector; or iii) with some collector although at a reduced quantity than what is conventionally used. The above three options exist because it is possible that some valuable sulphide mineral can be recovered without the need for a collector.

Applicant has determined in the present invention, that if flotation is conducted at a particular speed (i.e. subjecting the slurry to flotation in a pneumatic cell at such a rate...), recovery will be acceptable if the Eh remains within the aforementioned predetermined range.

Claims 3 through 5 further define certain pH ranges, and claims 6 through 8 further define the speed at which flotation occurs. Therefore, the phrase "an Eh range within which the material may be recovered by flotation without the need for a collector" is clear to a person of skill in the art. The Eh range will be affected if a collector is used. In a process of the invention, the Eh range is determined and then the slurry is subjected to slurry flotation within that range. Applicant therefore respectfully asserts that the phrase "without the need of a collector" is definite.

With regard to claim 11, although Applicant respectfully asserts that its meaning was clear, Applicant has amended claim 11. Claim 16 has been amended to address the antecedent basis concern pointed out by the Examiner. Applicant respectfully believes that the objected to phrases in claims 15 and 17 have been fully explained by the explanation above with respect to claim 1. With respect to claim 18, it has been amended to be more clear, and Applicant respectfully asserts that one of skill in the art, having read this specification, would know what a "scalper" is. Claim 20 has also been amended.

Based on the claim amendments and the arguments offered above, Applicant respectfully requests that this rejection be withdrawn.

Rejections under 35 U.S.C. § 102

Claims 1-5, 9-10, 13, 15-18, and 20 are rejected under 35 U.S.C. § 102(b) as being anticipated by Heimala (U.S. Patent No. 4,561,970). Applicant respectfully traverses this rejection.

Heimala does not disclose the step of "subjecting the slurry to flotation in a pneumatic cell". Indeed, Heimala does not discuss pneumatic cells at all, and only discloses the use of conventional mechanical flotation cells.

Furthermore, Heimala does not disclose subjecting the slurry to flotation "at such a rate that the slurry remains within the Eh range during flotation". In the examples of Heimala, the redox potential is altered to maintain the appropriate environment for flotation of the chalcopyrite.

Because Heimala does not disclose all of the elements of the claims, it does not anticipate the claims. Applicant therefore respectfully requests that this rejection should be withdrawn.

Claims 1-5, 9-10, and 12-18 are rejected under 35 U.S.C. § 102(b) as being anticipated by Australasian IMME - 1984 (AIMME). Applicant respectfully traverses this rejection. Similar to Heimala, this document does discuss the collectorless flotation of chalcopyrite, but does not disclose anything about pneumatic cells or choosing particular speeds of the flotation in order to maintain the Eh range during flotation. Therefore, Applicant respectfully submits that the reference does not contain all of the elements of the claims and therefore does not anticipate the claims. Applicant therefore respectfully requests that this rejection should be withdrawn.

Claims 1-5, 9-10, 12-13, and 15 are rejected under 35 U.S.C. § 102(b) as being anticipated by Ahn (Int'l Journal of Mineral Processing). Applicant respectfully traverses this rejection. Similar to Heimala and AIMME, this document discusses the collectorless flotation of chalcopyrite, but does not disclose anything about pneumatic cells or choosing particular speeds of the flotation in order to maintain the Eh range during flotation. Therefore, Applicant respectfully submits that the reference does not contain all of the elements of the claims and therefore does not anticipate the claims. Applicant therefore respectfully requests that this rejection should be withdrawn.

Rejection under 35 U.S.C. § 103

Claims 6-8, 11, and 19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the prior art as applied to claims 1 and 18 respectively and further in view of Kennedy (Mining Magazine - October 1990). Applicant respectfully traverses this rejection.

In order to establish *prima facie* obviousness, three basic criteria must be met, namely: (1) there must be some suggestion or motivation to combine the references or modify the reference teaching; (2) there must be a reasonable expectation of success; and (3) the reference or references when combined must teach or suggest each claim limitation. Applicant submits that the Office Action failed to state a *prima facie* case of obviousness, and therefore the burden has not properly shifted to Applicant to present evidence of nonobviousness.

Applicant respectfully asserts that the Examiner has not established a *prima facie* case of obviousness at least because there is not suggestion or motivation to combine the references. The Examiner asserts that the Kennedy reference discloses residence times in Jameson cells of around one minute and it would have therefore been obvious to a person of ordinary skill in the art to employ such a flotation cell for self-induced flotation of Redox potential controlled

flotation separation. Applicant respectfully disagrees with the Examiner's assertion because the Examiner offers, and indeed there is none, no motivation to combine the Kennedy reference with the other references.

Applicant also asserts that there is no *prima facie* case of obviousness because the combination of the references does not teach all of the elements of the claimed invention. None of the references, or any combination of the references disclose subjecting the slurry to flotation "at such a rate that the slurry remains with the Eh range during flotation".

Based on the above, Applicant respectfully requests that the rejection under 35 U.S.C. § 103 be withdrawn.

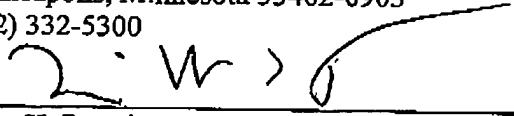
Conclusion

In view of the above amendments and remarks, Applicant respectfully requests a Notice of Allowance. If the Examiner believes a telephone conference would advance the prosecution of this application, the Examiner is invited to telephone the undersigned at the below-listed telephone number.

Respectfully submitted,

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